EBMUD Comments on the M-WELO June 12th, 2015 (Public Draft) by Scott Sommerfeld, Water Conservation Representative, RLA 2143, Irrigation Specialist

Paragraph	Revision/ Addition/ Support	Description	Rational	Proposed new text
490 (b) (1)	Support	Landscaping practices that integrate and transcend the conservation and efficient use of water	Supports transition from inefficient landscapes to sustainable landscapes	
490 (b) (2)	Addition Support	Insert the word creatively	Adding the word creatively supports and emphasizes the need for a holistic integrated approach and workforce open to new ideas. Support the transition to holistic integrated sustainable principles and a workforce trained to design, install and maintian new landscapes that provide more value and benefits than traditional lawn based landscapes.	establish a structure for creatively planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects . . . Using a whole system watershed approach in landscapes of any size and scale that requires cross-sector collaboration to achieve the many benefits possible
490 (c) (1)	Addition Support	include the goal of creating the conditions necessary to support life in the soil	Life in the soil, the soil food web, is what makes healthy soil possible, builds soil structure to increase infiltration rate, allow air and water to flow into the root zone, allows plants to root deeply, releases all 42 plant nutrients (rather than the 3 to 6 synthetic nutrients normally applied to traditional landscapes) in a form available to plants. The soil food web is the foundation of sustainable landscaping.	(1) Increasing carbon storage, water retention and productive plant growth by creating conditions that support beneficial life in the soil, reducing compaction . . .

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Paragraph	Revision/ Addition/ Support	Description	Rational	Proposed new text
490.1 (a) (1)	Revision	(Optional) New construction projects 500 to 1,500 square feet must meet certain prescriptive criteria. Must submit a plant list, drip irrigation detail including manufacturer and model number, controller manufacturer and model number.	Provides a streamlined, more cost effective option for small projects	Must not include any lawn or lawn-like plants), must use only low-water use plants, must only use drip irrigation that irrigates the mature drip line of the plant, must apply a minimum of 3 inches of mulch (hold mulch 6 to 9inches away from base of plant). If irrigated, just use a smart controller.
490.1 (a) (1)	Revision	New construction projects greater than 500 square feet that do not meet the prescriptive criteria in 490.1 (a) (1) above and all projects greater than 1,500 square feet.	If project does not meet prescriptive criteria, then it must be in full compliance with WELO	
490.1 (a) (2)	Addition	Although it is good to limit Applicability of rehabilitated landscape projects to greater than 2,500 sf, projects of any sizes should still be required to eliminate over spray and run-off	There are still too many existing projects with excessive overspray and run off. Water waste is prohibited by state law so any project ,existing or rehabilitated should be required to turn off zones that overspray or cause run off untill corrected. Especially projects being rehabilitated.	
490.1 (a) (1)	Revision	If prescriptive option not provided, consider raising the applicability to 1,000 or 1,500 square feet.	WELO requirements are comprehensive and add cost to projects that may not be cost effective for smaller projects	

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Paragraph	Revision/ Addition/ Support	Description	Rational	Proposed new text
491 (j)	Addition	Drip irrigation is assumed to have a high irrigation efficiency factor between 0.8 and 0.9 or higher. This assumption must be backed up with good design. Unfortunately many irrigation designs fall short. A common poor practice is specifying 1 emitter per 1 gallon sized plant and 2 emitters per 5 gallon sized plant or similar. It makes no sense to specify the number of emitters based on planting container size. The 1 gallon sized plant could out grow the 5 gallon sized plant. The assumption is additional emitters will be added later as the plant grows. This rarely happens. When the plant grows beyond the wetted pattern of the emitters it starts to stress. The irrigation runtime is increased but it is inefficient trying to irrigates the entire root zone from one point source. Proper irrigation requires 80 to 100 percent of the root zone to be watered evenly. In addition plant roots do not seek out water. Rather Plant roots grow where the conditions support root growth. a common error is not providing enough emitters to wet the mature drip line of the plant root zone.	the irrigation efficiency factor should be de-rated for poor design. Irrigation efficiency factors between 80 and 90 percent should only be allowed if 80 to 100 percent of the root zone is irrigated at the time of planting. If less than 80 to 90 percent of the root azone is irrigated an irrigation efficiency factor of 50 percent or less should be used to estimate the ETWU.	Add the following text at the end of the paragraph. The irrigation efficiency factor shall be de-rated if less than 80 percent of the mature drip line of the plant root zone is irrigated.

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Paragraph	Revision/ Addition/ Support	Description	Rational	Proposed new text
491 (q) ET adjustment factor	Revision	The proposed changes to ETAF are excessively restrictive, if not impossible to achieve. To avoid confusion in the design and enforcement of efficient building standards the WELO ETAF should be consistent with Cal green. WELO is now more than 23 years old and few project are being irrigated to the budgets shown on the plans. More savings are could be achieved simply by enforcing the current ETAF than simply lowering the factor.	To avoid confusion in the design and enforcement of efficient building standards the WELO ETAF should be consistent with Cal green. From a practicable perspective it may be better to take baby steps and lower the ETAF incrementally over a period of ten years or so to allow the building industry to adapt. It may also be appropriate to require existing projects to slowly meet a higher irrigation efficiency standard over 20 years or so. Water budgets for existing projects would be based on 0.8 ETo and each year the budgets would be decreased 0.79, 0.78 0.77, etc. so in 20 years all existing projects would meet a budget of 0.6 or better.	Revise WELO ETAF to be consistent with Cal green. Set water budgets for existing project at 0.8 for 2016 to be reduced annually by 0.01 or 0.02 per year until both new and existing projects meet the same efficiency requirements.
491 (cc) irrigation survey	Addition	Recommendations in survey should not only improve performance but also bring the installation up to the minimum needed to comply with WELO	We need to define the minimum standards that a new project mut meet so the local agency building officials will have specific things to verify.	I do not have time to recommend a list of minimum standards. I do suggest however that the CUWCC Landscape committee could brain storm a list quickly if asked to do so.
491 (www) Water Budget	Revision	Currently in WELO the basic water budget calculations require measured areas of each irrigated hydrozones. Since each areas has to be measured anyway, why not revise to require a calculation of ETWU for each irrigation zone. This would provide the required information needed by the water manager to program most smart controllers. The irrigation zones could then be labeled with a descriptive hydrozones name.	This would also make it easier for the reviewer to understand how the hydrozones were derived. The more clear the hydrozones are defined, the easier it will be to manage the irrigation system.	

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492.3 (a) (2)(A) hydrozones information table	Revision	Every zone should be treated as a separate hydrozones. This helps the water manager program the controller. The zones can then be organized into hydrozones but actually isn't necessary. The plant with the highest water use should be required to be listed for each irrigation zone.	The plant with the highest water requirement determines the water use for the zone. The ETWU and the square foot area information is provided for each zone. When this information is provided it makes it easier for the reviewer to determine compliance.	
492.4 (c)(1) Example MAWA calculation for a residential	Revision	Do we intend to allow a recreational area for a residential project?	Turf is limited as a percent of irrigated area.	
492.6(a)(1)(B) Landscape Design Plan	Revision	WELO currently allows mixed water use zones of low and medium. Recommend that Not more than 25% of the irrigated areas be turf. Then recommend that 90 percent of the non-turf area must be planted in zones with only low-water use zones (No mixed zones). Then the remaining 10 percent of the non-turf area could be planted with low or mixed use zones).	Mixed use water use zones send the wrong message.	
492.6(a)(1)(D) Landscape Design Plan	Revision	Turf is currently not allowed on slopes greater than 25%. This percentage should be reduced to not allowed on greater than a 10% slope.	It is very difficult to irrigate turf with overhead irrigation on a slope. Ornamental turf is now discouraged. Functional turf is allowed. Turf is not functional at more than a 10 percent slope (10 foot rise in 100 feet of run).	Turf is not allowed on slopes greater than 10%

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492.6(a)(1)(F) Landscape Design Plan	Revision	Recommend that the dimension remain at the current 8 foot limitation or that turf not be allowed at all in parksays.	There are other solutions to allow car riders to exit theirs and walk to the sidewalk. Turf should especially not be allowed where there is no parking adjacent to the parkway.	
492.7(a)(1)(I) Irrigation Design Plan	Addition	Clarify that overspray should not be allowed in an adjacent planting area irrigated by its own zone.	Most understand that irrigation should not overspray hardscape but think it is okay to overspray into an adjacent planting area. If that planting area is irrigated by a separate irrigation zone that is double irrigation and not efficient.	The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas such as adjacent ~~property planting~~ areas watered by a different irrigation zone non-irrigated areas hardscapes, roadways or structures.
492.7(a)(2)(A) Irrigation Design Plan	Addition	Add root depth to the criteria that determines a hydrozones.	Within the low water use category, large deeply rooted established shrubs have a different watering schedule than small shallow rooted perennial shrubs.	Add root depth to the list of criteria used to determine a hydrozones.
492.7(a)(2)(F) Irrigation Design Plan	Revision	Instead of grouping by hydrozones, consider each irrigation valve/station/zone a separate hydrozones.	This provides useful information for the water manage to program the controller and also makes it easier for the reviewer to determine compliance with WELO	
492.7(b) Irrigation Design Plan	Addition	The most important number on the irrigation plan should be the water budget by month in gallons per day.	a simple spread sheet could be provided where the date and the meter read is entered and the water manager could determine immediately if the project is over or under budget. This would enhance enforcement.	